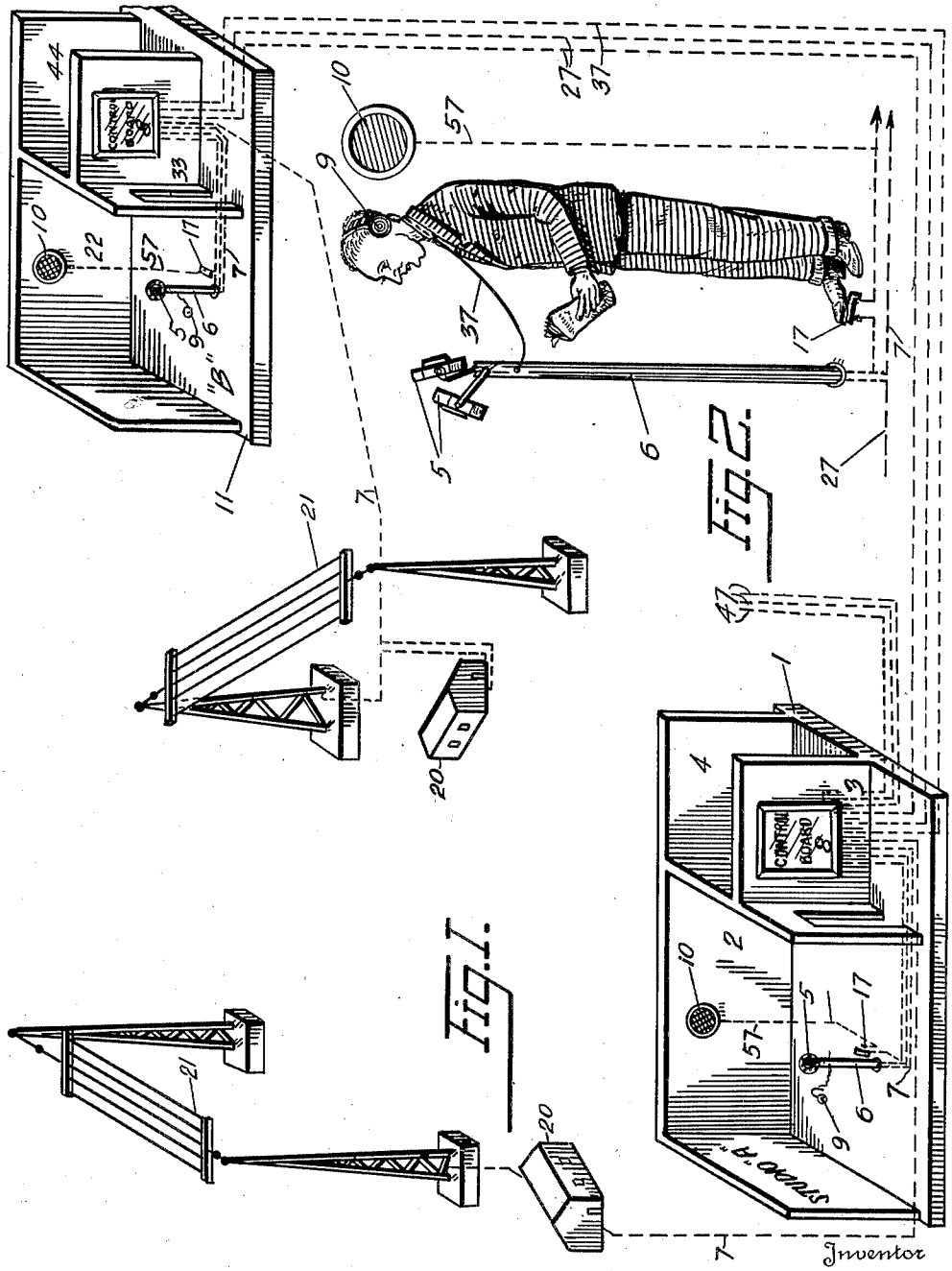
March 11, 1941. A. B. BUFFINGTON 2,234,817

SYSTEM OF PROGRAM TRANSMISSION

Filed April 10, 1940 2 Sheets-Sheet 1



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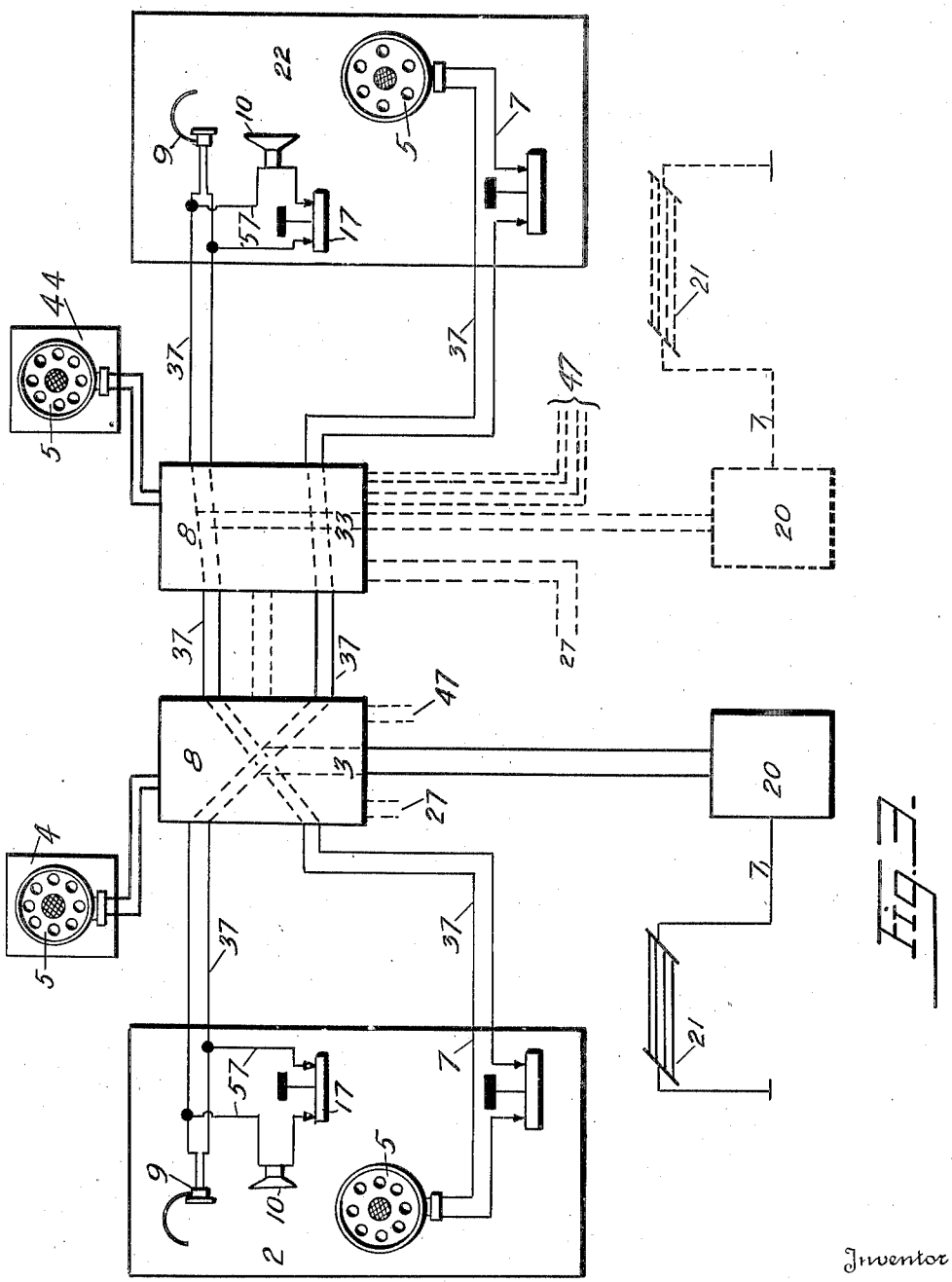


Fig. 3.

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SYSTEM OF PROGRAM TRANSMISSION

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2 Claims. (Cl. 250—6)

This invention refers to methods of program transmission and particularly to that usable for radio broadcasts.

It has among its objects to provide a method of arranging programs, circuits and equipment thereof in such a way that conversations, discussions and broadcasting may be carried on between stations or studios for the broadcast listeners in a unique manner.

Another object is to provide for the intermingling of programs of certain separated and designated radio stations, but without the studio audiences or entertainers of one studio hearing portions of the program originating in another studio.

A further object is to disclose the section of the program from one studio to the audience and entertainers of another studio that has a different section of the program, at predetermined times for certain effects or results. At the same time the whole program is broadcasted through the air for the public to listen to all the details of the program originating in any of the stations, or studios, linked in the program.

Still another object is to enable the program studios to be linked together by a special communicating means for the benefit of the masters of ceremonies of each studio in carrying on and directing the program.

Many other objects will become apparent as the invention is more fully set forth.

The general method of broadcasting from local stations in chain systems consists in tying the transmitting apparatus of each in parallel, with the control boards in between, to provide the necessary accentuation and amplification as well as announcements of a commercial or station identification. The stations and their studios are run in unison as to programs, with the station identification localized. The audience in such stations are aware of everything that takes place over such stations as each station is run together as far as the programs are concerned.

In this invention the controls of the stations are arranged differently. One station will carry on its program at first independently of another, that the contestant and audience in the latter will not be informed of what is taking place at the moment in the first. At the same time the general public listening in at their home or domestic radios will hear whatever takes place at either station and will be able to make their comparison as to the merits of all parts of the programs. The masters of ceremonies at the studios have special switches which control the accessibility of one program to the audiences and listeners of another studio. This enables one studio audience to appreciate what is being auditioned in the other when the master of ceremonies allows them to do so. The details of the procedure are best appreciated through an illustration of an example of the arrangements and methods involved.

In the drawings provided to illustrate an example of this invention:

Figure 1 is a view in perspective and diagrammatically arranged of an embodiment of this invention;

Figure 2 is a view made to indicate the general arrangement of equipment and circuits provided for at the master of ceremonies position in a studio in this form of the invention, and

Figure 3 is a diagrammatic detail of the wiring arrangement of the circuits used in this invention.

Similar reference characters refer to similar parts throughout the drawings.

In the drawings, 1 and 11 represent the radio station buildings respectively. These station buildings are conventionally divided into studio rooms 2 and 22 arranged in separate parts of the buildings to suit requirements and with incidental arrangements for private audiences to hear the programs and see the performers in the specific studios. The studio rooms are primarily designed to benefit the programs and control the performances of the entertainers. Where audiences are allowed to be present in the studios they increase interest in the program both interiorly and exteriorly, and give the officials and sponsors interested, a visible indication of the reactions of the visible audience by which to judge the performance in a general way, as well as add realism to and influence the listeners out of the stations, through the expressions of applause, laughter, etc., such audiences give during the program in a manner to be used in the broadcast.

Control rooms 3 and 33 for various purposes are set apart in the building with the necessary equipment and connections to control the programs being relayed into the station for broadcasting purposes etc. These rooms are usually closed off physically and acoustically from the public that may be in the studios.

Booths 4 and 44 are usually provided in separate portions of the building to allow the commercial and station announcers to speak their particular parts without interference, interruption or influence from external sources. These announcements are more or less stereotyped and devoid of social requirements other than that of a regimental form.

The masters of ceremonies and any assistants that they may need for the requirements of the programs generally direct the program and conduct of the performers, as well as cooperate with the operators in the control rooms. Windows in the walls of the various rooms permit visual attention and communication between those con-

cerned in these rooms mentioned for their co-operative action. The transmission rooms may be in separate buildings 20 indicated in the drawings. The necessary equipment for broadcasting is contained in the structures shown and adjacent to the aerial equipment 21. Transmission for the broadcast is done in a conventional manner, the necessary circuits running to and from the studios to same.

The studio has primarily, microphonic sets 5, mounted on stands 6 through which the circuit wires pass in a concealed and protected manner. The sets 5 are preferably joined in parallel in each studio to bring all sounds from the studios to the same junction point for broadcasting and land wire transmission to competing stations, from whence it is also broadcasted and is also tied in with the single ear phone of its master of ceremony. The audition circuits as such are termed in these specifications are indicated at 7. These circuits primarily pass through the control boards 8 to the broadcasting aerials 21 connected with the transmission buildings 20. In addition these circuits are connected through the circuit 37 that preferably runs terrestrially to the chained-in stations or other than the competing stations using this method of transmitting programs. Other circuits 27 for intertelephone talking between the masters of ceremonies are tied in to the microphonic sets 5 through a land line to the neighboring station connected in, with a single telephone receiver at each end. The single receiver 9 is used so the master of ceremonies may need the use of only one ear to hear the outside program and have the other available for listening to the program that he is personally directing at his own studio. The circuits 37 also connect with loud speakers 10 or public address systems mounted on the walls or other convenient locations in the studios where the programs are being held. The performance in one studio may be heard by the audience and entertainers in the other connected-in studio, through a branch circuit 37. This last circuit is under the control of the master of ceremony in each studio and he decides when to allow his audience and entertainers in the studio to listen in to the program coming from the other competing studio.

In the diagrammatic arrangement shown in Figure 3 is shown, studio rooms 2 and 22, control rooms 3 and 33, booths 4 and 44, microphone sets 5, audition circuits 7, telephone receiver 9, loudspeakers 10, switches 17, transmission buildings 20, aerial equipment 21, intertelephone talking circuits 27, terrestrially chained in studio circuits 37, branching circuits to other stations 47 and loudspeaker circuits 57.

The operation of two stations is as follows, and is descriptive of any number of connected stations. The masters of ceremonies in both stations take up their positions before their own respective microphones and one of them talks to the entertainers in front of him, who answer into microphones in parallel with his microphone. The outgoing circuit from these microphones leads to the control board and from thence to the broadcasting aerials. Another circuit connects the two studios together through their respective control boards and land wire connections And each have loudspeaker circuits in parallel with the circuit that runs to the ear phones of the respective masters of ceremonies. The loudspeaker circuit 57 may be opened or closed through switches 17 so as to keep the foreign program from being heard in the studio to which it is brought until the master of ceremony of that studio allows it to do so. Thus if questions are asked and answered in studio "A," and while sent to studio "B" and broadcasted from studios "A" and "B" directly to the broadcast listeners, the proceedings are not allowed to reach the entertainers and audience in studio "B." The latter will not know what such questions and answers are. However after the questions and answers have been given in studio "A" and the entertainers in studio "B" take their questions and give their answers the entertainers and audience in studio "A" may be allowed to hear the same questions answered by the entertainers in studio "B" or vice versa.

The fact that the whole entertainment at both stations or studios is open through the transmitters to the broadcasting aerials and can be heard by all radio listeners does not prejudice the entertainment or entertainers as there is no contact feasible with the latter or their studio audiences from the outside. It does however bring in an interesting phase to the broadcasting listeners and keeps the entertainers and audiences on edge or nervously thrilled wtihin the studio, as they have a particular incentive to favor one side and induce a more competitive spirit. The radio listeners have two phases of interest, one being based on how the entertainers will answer specifically; and the other based on the competitive degree of excellence portrayed by the complete number of entertainers in each studio compared with each other. The diagrammatic arrangement in the drawings shows in general, how the arrangements are made and the methods used. Such arrangements may be extended to other stations formed into a temporary chain as indicated by the branching circuits 47, and the entertainment extended to a greater field. It is not intended to limit the scope of this invention to the forms indicated or in any other way otherwise than limited by the claims, as it is appreciated that the same principles could be utilized and the methods varied regardless of the forms illustrated and come within the field of the appended claims.

Having thus described the invention, what is claimed is:

1. In a broadcasting system, a plurality of studios, means for broadcasting programs originating in said studios, at least one microphone in each of said studios, at least a first and second audio receiving means in each of the said studios, circuit means for connecting the said at least one microphone at each studio to the said means for broadcasting programs and to the audio receiving means in other studios of said plurality of studios, means for disconnecting the first audio receiving means from the said circuit means at will.

2. In a broadcasting system, a plurality of studios having means for broadcasting programs comprising a plurality of discrete transmitters each operable at a different predetermined frequency, at least a first and second audio receiving means in each of the said studios, circuit means for connecting the said at least one microphone at each studio to said means for broadcasting programs and to the audio receiving means in other studios of said plurality of studios. means for interrupting the first audio receiving means of the said circuit means at will.

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